CLAIMS -- I Claim:

1. A method for monitoring and controlling, from a host computer, the real-time logic state of a plurality of target devices in a boundary scan chain, comprising:

(a) displaying graphical representations of said target devices on a graphical display device connected to said host computer,

(b) running boundary scan operations on said target devices to collect information about said target devices and storing said information in said host computer for said displaying operation,

(c) updating said graphical representations with said information to visually indicate current logic state of said target devices,

whereby a human can view and manipulate a boundary scan enabled device via an easy-to-use intuitive graphical user interface.

2. The method of claim 1 further comprising modifying the attributes of said graphical representations to help organize and simplify monitoring of said boundary scan chain.

3. The method of claim 1 further comprising initiating and running boundary scan operations via a single button that frees the user from preparing predetermined test vectors.

4. The method of claim 1 further comprising initiating and running boundary scan operations via a single button press that frees the user from preparing predetermined test executives.

5. The method of claim 1 further comprising periodically updating graphical representations for displaying real time status of boundary scan information.

6. The method of claim 1, further comprising providing a plurality of virtual indicators to augment and simplify the display of boundary scan information.

7. The method of claim 6 wherein said indicators are graphical representations of various forms of light emitting diodes.

8. The method of claim 1, further comprising providing a plurality of virtual controls to augment and simplify the control of a boundary scan chain.

9. The method of claim 8 wherein said indicators appear as graphical representations of various forms of mechanical switches that are familiar to the user.

10. The method of claim 1, further comprising providing a graphical representation of an input-output port on said host computer used to perform boundary scan operations, whereby said input-output port graphical representation serves to visually remind the user which port is controlling the scan chain.

11. A method for determining a sequence of state machine transitions required to transition from any state in a boundary scan TAP controller to any other state in said boundary scan TAP controller given only a current state and a desired state, comprising:

(a) Using said current state and said desired state as indices into a predefined lookup table to identify said sequence of state machine transitions

(b) Applying said state machine transitions to said TAP controller to transition it to said desired state.

12. A method for creating graphical representations of target devices from user-provided boundary scan description files, comprising the steps of:

(a) opening a boundary scan description language file pointed to by a user;

(b) extracting a plurality of physical attributes of a target device from said file,

(c) creating a graphical representation based on said plurality of physical attributes found in said file, and

(d) displaying a plurality of said graphical representations on a host computer display.